

SIEMENS

SIMATIC

Industrial PC SIMATIC IPC BIOS Manager

Operating Manual

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Legal information

Warning notice system

This manual contains notices you have to observe in order to ensure your personal safety, as well as to prevent damage to property. The notices referring to your personal safety are highlighted in the manual by a safety alert symbol, notices referring only to property damage have no safety alert symbol. These notices shown below are graded according to the degree of danger.

⚠ DANGER
indicates that death or severe personal injury will result if proper precautions are not taken.
⚠ WARNING
indicates that death or severe personal injury may result if proper precautions are not taken.
⚠ CAUTION
with a safety alert symbol, indicates that minor personal injury can result if proper precautions are not taken.
CAUTION
without a safety alert symbol, indicates that property damage can result if proper precautions are not taken.
NOTICE
indicates that an unintended result or situation can occur if the corresponding information is not taken into account.

If more than one degree of danger is present, the warning notice representing the highest degree of danger will be used. A notice warning of injury to persons with a safety alert symbol may also include a warning relating to property damage.

Qualified Personnel

The product/system described in this documentation may be operated only by **personnel qualified** for the specific task in accordance with the relevant documentation for the specific task, in particular its warning notices and safety instructions. Qualified personnel are those who, based on their training and experience, are capable of identifying risks and avoiding potential hazards when working with these products/systems.

Proper use of Siemens products

Note the following:

⚠ WARNING
Siemens products may only be used for the applications described in the catalog and in the relevant technical documentation. If products and components from other manufacturers are used, these must be recommended or approved by Siemens. Proper transport, storage, installation, assembly, commissioning, operation and maintenance are required to ensure that the products operate safely and without any problems. The permissible ambient conditions must be adhered to. The information in the relevant documentation must be observed.

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Disclaimer of Liability

We have reviewed the contents of this publication to ensure consistency with the hardware and software described. Since variance cannot be precluded entirely, we cannot guarantee full consistency. However, the information in this publication is reviewed regularly and any necessary corrections are included in subsequent editions.

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Introduction

1.1 Introduction

SIMATIC IPC BIOS Manager

This documentation describes the functionality of SIMATIC IPC BIOS Manager. The BIOS Manager lets you:

- Save and update the latest BIOS version.
- Save BIOS settings or upload them from a different save.

The program package operates exclusively under Windows PE as of V2.0. You can start the BIOS Manager from a USB flash drive, a hard disk or a CD-ROM. The program package is available for download in the Internet.

Additional information is available under: Industry Automation and Drive Technologies - Homepage (<http://www.siemens.com/automation/service&support>)

Restore or Recovery CD/DVD

As of the SIMATIC IPC C device generation the restore or recovery CD/DVD supplied with the respective device is based on Windows PE. You can use it to boot Windows PE and start the BIOS Manager. For additional information see Starting the software (Page 9).

Requirements

2.1 Hardware requirements

The following Siemens products are supported:

- SIMATIC Box PC 627B
- SIMATIC Box PC 827B
- SIMATIC Microbox PC 427B
- SIMATIC Rack PC 847B
- SIMATIC Rack PC IL 43
- SIMATIC Rack PC 547B
- SIMATIC Rack PC 647B
- SIMATIC Panel PC 477B
- SIMATIC Panel PC 577B
- SIMATIC Panel PC 677B
- SIMATIC IPC427C
- SIMATIC IPC627C
- SIMATIC IPC547C
- SIMATIC IPC647C
- SIMATIC IPC847C
- SIMATIC HMI IPC477C
- SIMATIC HMI IPC477C PRO
- SIMATIC HMI IPC577C
- SIMATIC HMI IPC677C
- SINUMERIK PCU 50-3/50-5
- SIMOTION P350-3/P350-5
- MC PC BOX V5
- SIMATIC Field PG M3

Depending on the device configuration, you may need an additional USB CD/DVD drive and a USB data carrier with the unzipped files of the download.

See also

Starting the software (Page 9)

2.2 Software Requirements

The following software requirements must be met:

- Windows PE boot medium (as of C device generation based on Windows PE)
 - Restore or Recovery CD/DVD Alternative:
 - Image & Partition Creator as of V3.0
- Download of the latest BIOS Manager is present.

Starting the software

3.1 Preparation

Create bootable USB flash drive

Use the optional software package "Image & Partition Creator V3.x" to create a bootable USB flash drive.

1. Start the "Image & Partition Creator V3.x".
2. Select the following option in the displayed dialog box:
"Create bootable USB stick"
3. Confirm the selection.
4. Copy the unzipped BIOS Manager catalog to the root directory of the USB flash drive.

3.2 Starting the software

Procedure

1. Install the USB data carrier in the device and boot Windows PE.
2. Open a console window.
Use the menu command (if present) or the following key combination: Shift + F10.
3. Change to the directory that includes the unzipped files.
Example:
If you have unzipped the files to "W:\BiosManager":

```
W:  
CD \BiosManager
```
4. Start the BIOS Manager.
In graphic mode: Use the batch file "Start_GUI.bat".
In console mode: Use the batch file "Start_Console.bat".

See also

Hardware requirements (Page 7)

4.1 Overview

The following chapter includes all information you need for operation of the BIOS Manager.

You operate the BIOS Manager using the "Management Explorer" graphical user interface or the console application.

You start the console application with the batch file "Start_Console.bat". You open a description of the operating commands with the command "BIOSMa -h".

4.2 The Management Explorer

The Management Explorer provides a two-pane view similar to the Windows Explorer.

In the left-hand pane, all the function groups to be monitored are listed in a tree structure below the name of the station.

The right-hand pane of the window shows the individual devices of a function group.

As default, two toolbars are shown in the program window:

- Standard: You can change the view with the double arrow.
- Address bar: This bar is used for navigation. Using the arrow left and arrow right buttons, you can move backwards and forwards through the various function groups in much the same way as in an Internet browser. The arrow up button is used to select the higher-level station. Using the address box next to the arrow buttons, you can go directly to a function group.

The toolbars can be hidden using the "View" menu command.

Note

The operating system help is not available under Windows PE.

4.3 Displaying the properties of an element

To display the properties of an element, follow these steps:

1. Right-click on the element in the list view.
2. A shortcut menu opens in which you select the "Properties..." menu command.
3. The "Element properties..." window opens and displays the main properties of the element.

4.4 "BIOS" Group

4.4.1 "BIOS" Group

The "BIOS" group shows the BIOS information. The following information will be displayed:

- Version
- Settings

This group also includes the subgroup SMBIOS (Page 12).

4.4.2 SMBIOS

SMBIOS (System Management BIOS) specifies data structures, as well as their arrangement in the BIOS of the computer.

All configuration data on the motherboard of the monitored SIMATIC IPC device such as the serial number, order number, revision number of the hardware or BIOS, device name, processor information or system information; can be displayed in the "SMBIOS" group.

Only the group elements are shown in a tree under the "SMBIOS" group in the left section of the Management Explorer. Both group elements and single elements are shown in the right section of the window.

4.4.3 BIOS settings

You can save the BIOS Setup settings of a PC in a file. This step saves the basic settings of a device so that you can restore the basic status of the BIOS Setup settings after inadvertent or incorrect changes.

You can also transfer the BIOS settings from one computer to another if the hardware platform and the BIOS version match. This will give you the option to save the BIOS settings of a computer as a template.

The latest BIOS settings are displayed in the tab "Settings" of the element properties "BIOS settings". Depending on the BIOS or device version, display will either be in text format or as hex dump (CMOS image).

Saving the latest BIOS settings

1. Open the "Settings" tab of the element properties "BIOS settings".
2. Click the "Save" button.
3. Select the storage location and enter a suitable file name.
4. Confirm the selection.

Upload BIOS settings

1. Open the "Settings" tab of the element properties "BIOS settings".
2. Click the "Load" button.
3. Select the file you want to upload.
4. Confirm the selection.
5. Activate the newly loaded BIOS settings. Restart the PC for this purpose.

4.4.4 BIOS version

Note

The following functions will not be available on all SIMATIC IPC models.

Change asset tag

In the "Update" tab of the BIOS version properties

The update tab of the BIOS version element properties includes the section "asset tag". The asset tag is located in SMBIOS under "System Enclosure" as entry "Asset Tag Number".

Procedure:

1. You will be able to enter a new inventory tag after pressing the "Change" button. This revised inventory tag will be saved permanently in the computer.
2. Restart the PC. The revised entry is accepted to SMBIOS.

Saving the BIOS Image

The "BIOS Image" section of the BIOS version element properties includes the buttons "Load" and "Save".

1. To save the currently installed BIOS to a medium, click on the "Save" button.
2. You will then enter the file name and the storage location.
3. Confirm the selection.

Performing a BIOS update

NOTICE

Latest BIOS

Check to see that the latest BIOS is available for your SIMATIC IPC (as of C device generation). For additional information, refer to the Internet at Industry Automation and Drive Technologies - Homepage (<http://www.siemens.com/automation/service&support>).

NOTICE

Irreparable damages to the BIOS

An incorrectly performed BIOS update may cause irreparable damages to the BIOS. You may only start a BIOS update if it is absolutely necessary. The following applies:

- Never interrupt the power supply while an update is taking place.
- The update process must be complete before you shut down the device.

1. When you perform a BIOS update, click the "Load" button.
2. Select the required BIOS binary file.
3. Following a version comparison, you will be prompted to start or cancel the update.
To start the update process, click the "Yes" button.

See also

Industry Automation and Drive Technologies - Homepage
(<http://www.siemens.com/automation/service&support>)

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